

WHAT IS CLAIMED IS:

[0026] 1. A method of stabilizing adherence of a ceramic layer to a bond coat of a TBC system, comprising incorporating silicon into the bond coat and maintaining cobalt present in said bond coat at a minimum level.

[0027] 2. A method according to claim 1 wherein said bond coat comprises MCrAlY, wherein M is selected from the group consisting of nickel, cobalt, iron and mixtures thereof.

[0028] 3. A method according to claim 1 wherein chromium is present in an amount of 3-40 wt%.

[0029] 4. A method according to claim 1 wherein chromium is present in an amount of 5-30 wt%.

[0030] 5. A method according to claim 1 wherein aluminum is present in an amount of 3-30 wt%.

[0031] 6. A method according to claim 1 wherein aluminum is present in an amount of 5-20 wt%.

[0032] 7. A method according to claim 1 wherein yttrium is present in an amount of 0.1-8 wt%.

[0033] 8. A method according to claim 1 wherein yttrium is present in an amount of 0.1-5 wt%.

[0034] 9. A method according to claim 1 wherein silicon is present in an amount of 0.3-5.0 wt%.

[0035] 10. A method according to claim 1 wherein silicon is present in an amount of 0.5-4.0 wt%.

[0036] 11. A method according to claim 1 wherein cobalt is present in an amount of 0-5 wt%.

[0037] 12. A method according to claim 11 wherein cobalt is present in an amount of 0-1 wt%.

[0038] 13. A method according to claim 1 wherein nickel is present in an amount of 15-45 wt%.

[0039] 14. A method according to claim 1 wherein nickel is present in an amount of 20-40 wt%.

[0040] 15. A gas turbine component comprising a TBC system having a metallic bond coat and a ceramic layer, said bond coat comprising silicon, and cobalt at a minimum level.

[0041] 16. A gas turbine component according to claim 14, wherein said silicon is present in an amount of 0.5 - 5 wt%.

[0042] 17. A gas turbine component according to claim 14, wherein said cobalt is present in an amount of 0 to 5 wt%.